AMENDMENTS TO THE CLAIMS:

Kindly amend claims 10, 13, 14, and 15, and add new claim 16 as follows:

Listing of claims:

1. (Original) A method of compressing information indicative of a three dimensional surface, comprising:

determining a function which approximates some aspect of the surface; and

defining the surface in terms of one scalar per point relative to said function.

2. (Original) A method as in claim 1, wherein said defining comprises defining a coarse representation and subsequently increasing a resolution of the coarse representation to a finer representation.

3. (Original) A method as in claim 2, wherein coefficients of the finer representation are all scalar functions.

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4. (Original) A method as in claim 2, wherein coefficients of the finer representation confine a residual area to a normal direction of said surface.

5. (Original) A method as in claim 1, wherein said surface is defined by a parametric function.

6. (Original) A method as in claim 1, wherein said surface is defined by a polyline.

7. (Original) A method as in claim 6, wherein said polyline has a normal component representing geometric information and a tangent component representing parameter information.

8. (Original) A method as in claim 6, wherein said polyline is defined as a function such that it can be described as one scalar per point of the polyline.

9. (Original) A method as in claim 8, wherein said polyline is substantially normal to said surface.

10. (Currently Amended) A method as in claim 9, wherein said polyline forms an isosceles triangle with neighboring line segments.

11. (Original) A method as in claim 6, wherein said polyline is a normal polyline to a surface.

12. (Original) A method as in claim 6, wherein said polyline is an approximation to a normal polyline to a surface.

13. (Currently Amended) A method of compressing a representation of a surface, comprising:

forming a plurality of isosceles triangles [which are normal triangles and which have vertices that are defined by a base point in a normal direction], each triangle having a vertex defined by a single scalar, the scalar representing a polyline extending normally from a midpoint of a base of the triangle; and

using said triangles to form a mesh that represents the [a] surface.

[13]14. (Currently Amended) A method as in claim [12]13, wherein said mesh is semiregular, having connectivity formed by successive quadrisection of coarse base domain phases.

[14]15. (Currently Amended) A method of forming a model of a three dimensional object, comprising:

forming a coarsest version of the model;

forming a plurality of curves which do not intersect one another, and which start and finish at vertices defining a base domain;

determining non-normal vertices; [and]

repositioning said non-normal vertices to [maximize] form a number of normal vertices; and

forming a normal mesh based on the normal vertices [using said information to form a normal mesh].

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16. (New) A method as in claim 15, wherein the normal vertices are each defined in terms of one scalar per vertex.